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March 20, 1997

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Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

REC'D
MAR 20 1997
FCC

**Re: Notice of Ex Parte Presentation
IB Docket No. 96-220**

Dear Mr. Caton:

Pursuant to Section 1.1206 of Commission's Rules, it is hereby noted that on March 19, 1997, GE Starsys Global Positioning, Inc. ("Starsys") and E-Sat, Inc. ("E-Sat") met with Thomas Tycz, Harold Ng, Paula Ford and Julie Garcia of the Satellite and Radiocommunication Division of the International Bureau. Present on behalf of Starsys were Alan Renshaw and Ken Newcomer, as well as David Sieradzki and myself of this office. Present on behalf of E-Sat was Fred Thompson, as well as Leslie Taylor of Leslie Taylor Associates, Inc. At the meeting GE Starsys provided copies of the attached presentation material.

An original and one copy of this notice are being submitted to the Secretary's office. Copies of this letter also are being provided to the staff who attended the meeting.

Respectfully submitted,



Peter A. Rohrbach
Counsel for GE Starsys Global
Positioning, Inc.

Enclosures

No. of Copies rec'd 041
List ABCDE



Two-Way Remote Positioning and Messaging Services

GE STARSYS BAND SHARING CONSIDERATIONS
FOR
SECOND ROUND LICENSING

GE STARSYS
19 MARCH 1997



Two-Way Remote Positioning and Messaging Services

137-138 MHz BAND

- PREFERRED OPTION: *FDMA FEEDERLINKS ONLY in 137.175-137.825 MHz*
 - Use 50 kHz bands at vacated NOAA "channels" in MSS primary allocation area of band
 - If feederlink at 137.5 MHz, must reduce power when in Starsys ground station antenna main beam
 - FDMA Feederlinks & Service links operating in secondary allocation area: minor impact to Starsys
 - GE Starsys power increase of 3 dB upon relocation of NOAA channels will:
 - improve GE Starsys link margin nearly 1 dB
 - may allow feederlink at 137.5 MHz to increase power in Starsys main beam
 - may allow increased power for some Orbcomm service links when in Starsys main beam



Two-Way Remote Positioning and Messaging Services

137-138 MHz BAND

- BACK-UP SHARING OPTION (LESS DESIRABLE): ONE FDMA SYSTEM IN 137-138 MHz BAND
 - FDMA service & feederlinks RHCP
 - Service links and feederlinks in secondary MSS area cause minor impact to Starsys
 - Feederlinks operating in non-centerline NOAA "channels" can be tolerated
 - = (Orbcomm size & power)
 - Feederlink at 137.5 MHz must reduce power when in main beam of GE Starsys ground station
 - FDMA Service Links:
 - = *should be restricted to "secondary" MSS areas*
 - = if in MSS primary area must reduce power when in ground station antenna mainbeam to avoid harmful interference to Starsys/E-SAT signal (inversely proportional to offset)



Two-Way Remote Positioning and Messaging Services

SHARING WITH E-SAT

- 137-138 MHz BAND
 - Sharing Assumptions:
 - = E-SAT is approximately same power as Starsys [-156.1 dB(W/m²/4kHz) pfd]
 - = E-SAT is same polarization as Starsys (LHCP)
 - = E-SAT uses different SSMA coding scheme
 - Systems can share when in sidelobes of Starsys ground station antenna
 - E-SAT transmissions outside of Starsys operating areas: pose no conflict
 - E-SAT transmissions in the same geographical area of Starsys: must avoid transmitting when in main beam of Starsys ground station antenna
 - = to avoid Starsys loss of up to 50% of capacity



SHARING WITH E-SAT

Two-Way Remote Positioning and Messaging Services

- 148.0-149.9 MHz BAND
 - Sharing assumptions:
 - E-SAT uplink SSMA signal has maximum of 50% overlap with Starsys band (at 40 dB down point)
 - E-SAT uplink power on terminals 1.25 Watts
 - Problem areas:
 - Starsys feederlink, & Canadian pagers interfere with E-SAT signal
 - = if E-SAT on-board processing can cope with pagers, Starsys feederlink is minor
 - = if E-SAT can avoid Canadian pagers, Starsys feederlink becomes major interferer

Potential solutions for Starsys interference to E-SAT:

- a. move center of E-SAT signal farther from Starsys feederlink
- b. move Starsys feederlink:
 - to S80-1 channel in 149.9-150.05 MHz band (CONUS only)
 - to 149.9-150.05 MHz channel when 2nd round gets replacement spectrum



Two-Way Remote Positioning and Messaging Services

ADDITIONAL COMMENTS:

- FCC could allocate the S80-1 50 kHz feederlink in the 149.9-150.05 MHz band to a Little LEO system for use within the CONUS
 - = Allocation to Starsys could remove major interference to E-SAT in 148.0-148.905 MHz
- ^{455 - 456}~~459-460~~ MHz and 459-460 MHz should be allocated to Little LEO in Region 2
- Potential use of 399.9-400.05 MHz band to alleviate feederlink spectrum scarcity

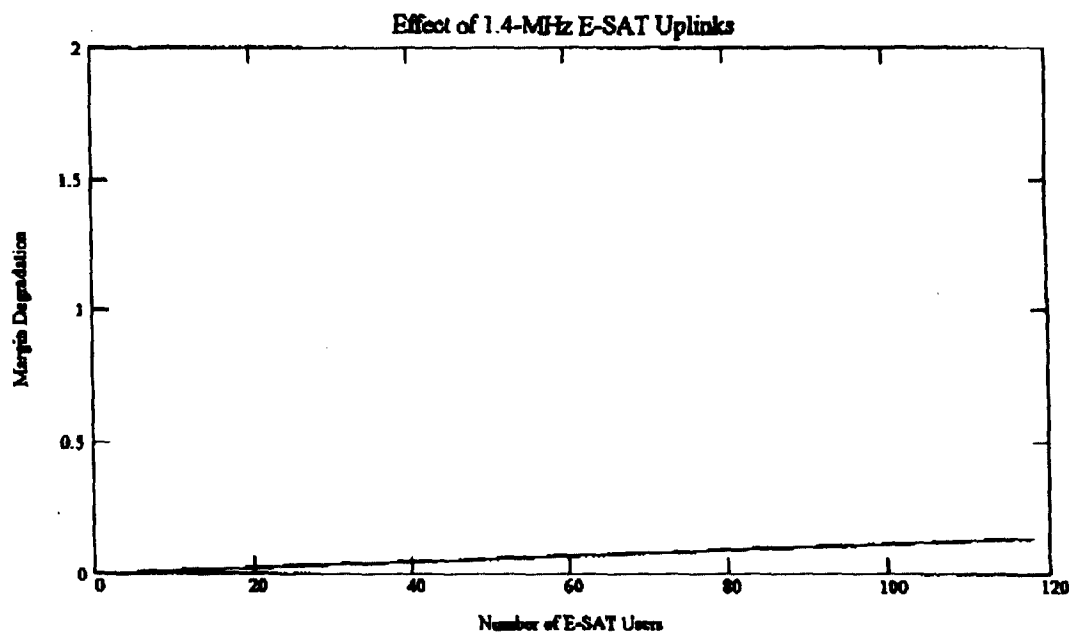
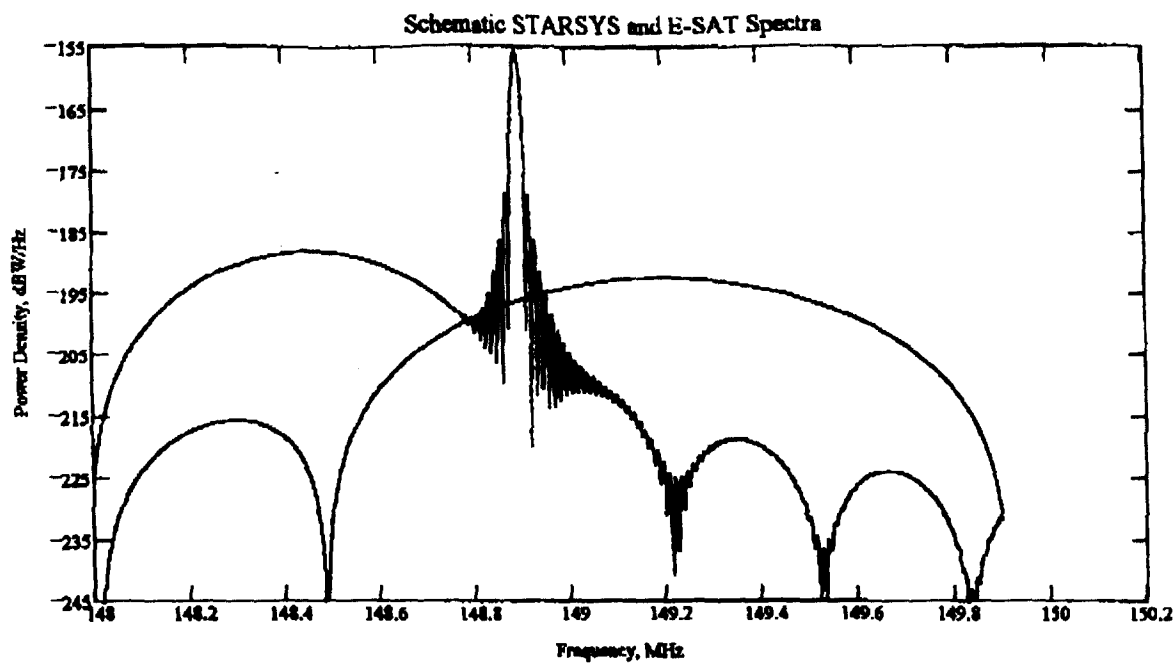


LEO ONE SHARING ANALYSIS

Two-Way Remote Positioning and Messaging Services

- LEO ONE ASSUMES WORST-CASE SCENARIO FOR FDMA SYSTEMS IN 137-138 MHz BAND
 - Center channel service links in main beam at full power
 - Multiple satellites in main beam unlikely
 - Excessive side-lobe interference (correctible)
 - Require turning off FDMA downlinks vs. reducing power
- OTHER QUESTIONABLE LEO ONE ANALYSIS ITEMS
 - Starsys gateway interference to Leo One not possible
 - Leo One multiple channel/satellite scenario not explained
 - Leo One showed 13.2 dB telemetry channel margin as feederlink margin (137-138 MHz)
- HOWEVER, LEO ONE ANALYSIS REINFORCES STARSYS POSITION:

FEEDERLINKS ONLY IN PRIMARY ALLOCATION AREA IS BEST SOLUTION



CESAToverIoutup = 40.251 dBHz